US009114927B2

(12) **United States Patent**
McKinnon

(10) **Patent No.: US 9,114,927 B2**
(45) **Date of Patent: Aug. 25, 2015**

(54) **THERMAL CONTAINER**

(71) Applicant: **FRESH BAILIWICK INC.**, Dartmouth (CA)

(72) Inventor: **Alan W. McKinnon**, Dartmouth (CA)

(73) Assignee: **FRESH BAILIWICK INC.**, Dartmouth, Nova Scotia (CA)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/089,901**

(22) Filed: **Nov. 26, 2013**

(65) **Prior Publication Data**

US 2014/0076961 A1 Mar. 20, 2014

Related U.S. Application Data

(60) Continuation of application No. 13/161,999, filed on Jun. 16, 2011, now abandoned, which is a division of application No. 12/170,870, filed on Jul. 10, 2008, now Pat. No. 7,975,905.

(51) **Int. Cl.**

B65D 5/60	(2006.01)
B65D 81/38	(2006.01)
B31B 1/22	(2006.01)
B31B 7/00	(2006.01)
B32B 3/12	(2006.01)
B32B 15/08	(2006.01)
B32B 27/32	(2006.01)

(Continued)

(52) **U.S. Cl.**

CPC ***B65D 81/3823*** (2013.01); ***B31B 1/22*** (2013.01); ***B31B 7/00*** (2013.01); ***B32B 3/12*** (2013.01); ***B32B 15/08*** (2013.01); ***B32B 27/32*** (2013.01); ***B32B 29/00*** (2013.01); ***B65D 25/16*** (2013.01); ***B65D 81/3897*** (2013.01); *B31B 2201/147* (2013.01); *B31B 2201/148* (2013.01); *B31B 2201/252* (2013.01); *B31B 2217/0069* (2013.01); *B65D 81/3848* (2013.01); *Y10T 428/24149* (2015.01)

(58) **Field of Classification Search**

CPC B65D 5/566; B65D 5/503; B65D 5/5045; B65D 81/38; B65D 81/3848; B65D 81/386; B65D 25/16

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

348,548 A 9/1886 Crump
1,340,968 A * 5/1920 Merrow ..... 217/3 BC

(Continued)

FOREIGN PATENT DOCUMENTS

CA 985236 A1 3/1976
CA 2347777 A1 6/2000

(Continued)

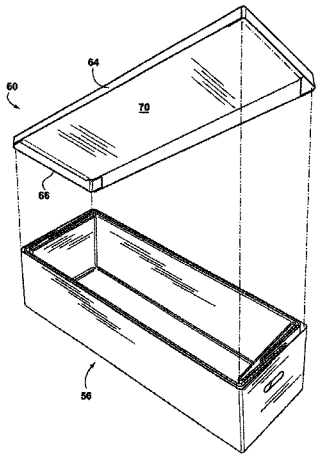
Primary Examiner — Gary Elkins

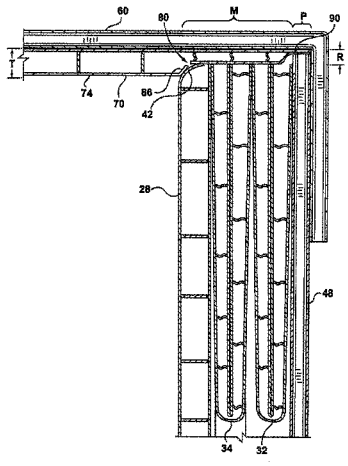
(74) *Attorney, Agent, or Firm* — Sutherland Asbill & Brennan LLP

(57) **ABSTRACT**

A thermal insulating liner for a container lid has a top sheet and a bottom sheet spaced by a core. The bottom sheet has an exterior metal foil layer. A side edge-to-side edge transverse cut line extends through the bottom sheet proximate each of two opposed ends of the liner. The liner has reduced thickness end margins extending between each said side edge-to-side edge transverse cut line and each of the opposed ends. A die to make the lid liner has a central well and, proximate each end of the die, an upward step to a land with an inside edge of the step having a ramp surface. A first cutting blade protrudes upwardly from the land and a second cutting blade protrudes upwardly above the land at each end of the die and above the level of the first cutting blade.

25 Claims, 8 Drawing Sheets





(51) **Int. Cl.**
B32B 29/00 (2006.01)
B65D 25/16 (2006.01)

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,691,178	A		11/1928	Beaman
1,715,814	A		6/1929	Brown
2,017,608	A	*	10/1935	Smith ..... 217/3 BC
2,301,657	A		11/1942	Hlavaty
2,330,262	A	*	9/1943	Biggs 229/169
2,523,145	A		9/1950	Robinson
2,728,200	A	*	12/1955	Frederick 62/372
2,860,555	A		11/1958	Williamson
3,124,292	A		3/1964	Stegner
3,160,307	A		12/1964	Morrison
3,669,340	A		6/1972	Kinney
RE28,439	E	*	6/1975	Shepherd 229/122.27
4,928,847	A		5/1990	Hollander et al.
5,000,372	A		3/1991	Hollander et al.
5,009,326	A	*	4/1991	Reaves et al. 229/103.11
5,050,794	A		9/1991	Wischusen, III
5,102,004	A		4/1992	Hollander et al.
5,111,957	A		5/1992	Hollander et al.
5,201,868	A		4/1993	Johnson
5,230,941	A		7/1993	Hollander et al.
5,314,087	A		5/1994	Shea
5,429,264	A		7/1995	Hollander et al.
5,492,267	A		2/1996	Hollander et al.
6,273,847	B1	*	8/2001	MacLean et al. 493/55
7,140,773	B2		11/2006	Becker et al.
7,226,405	B2		6/2007	Letherer
7,644,858	B2	*	1/2010	Glaser et al. 229/117.16
7,975,905	B2	*	7/2011	Humphries et al. 229/103.11

FOREIGN PATENT DOCUMENTS

EP	70721	A1	* 1/1983	..... B65D 5/566
WO	8703558	A1	6/1987	
WO	WO-00/76861	A1	* 12/2000	..... B65D 5/566

* cited by examiner

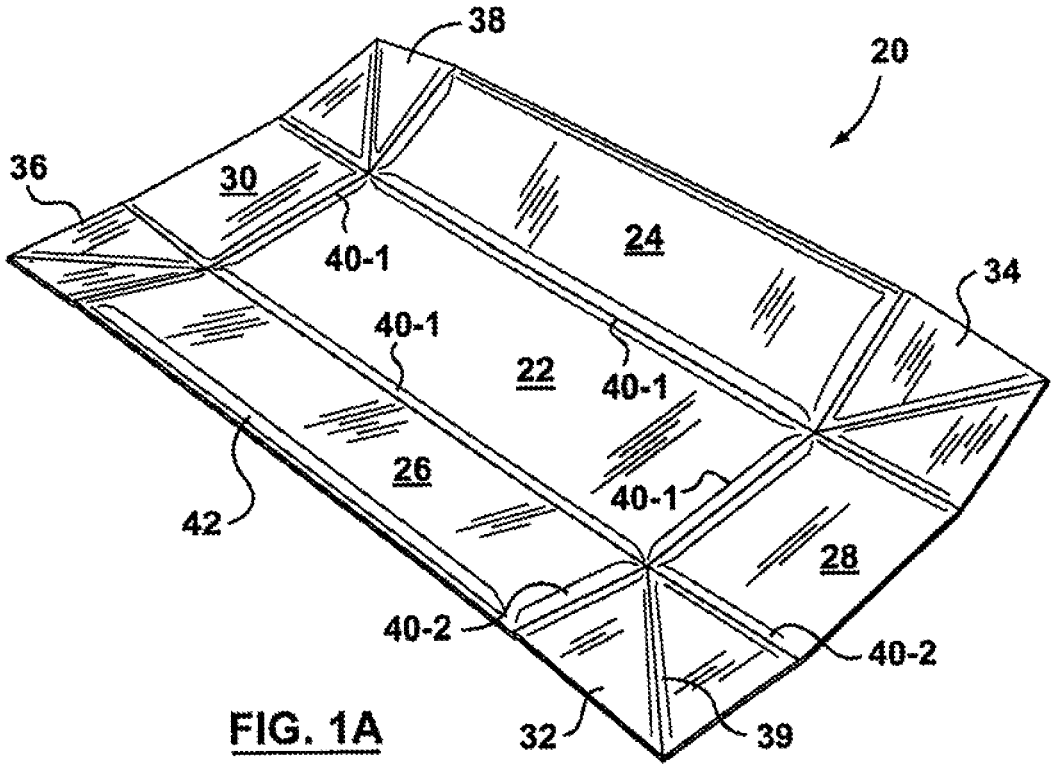


FIG. 1A

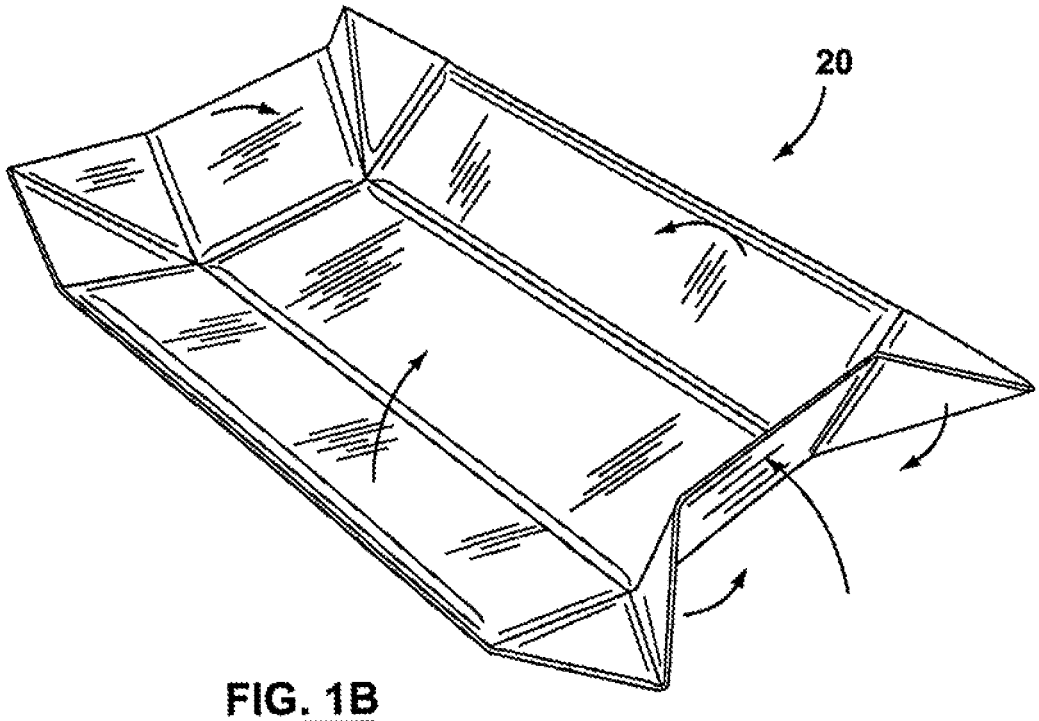


FIG. 1B

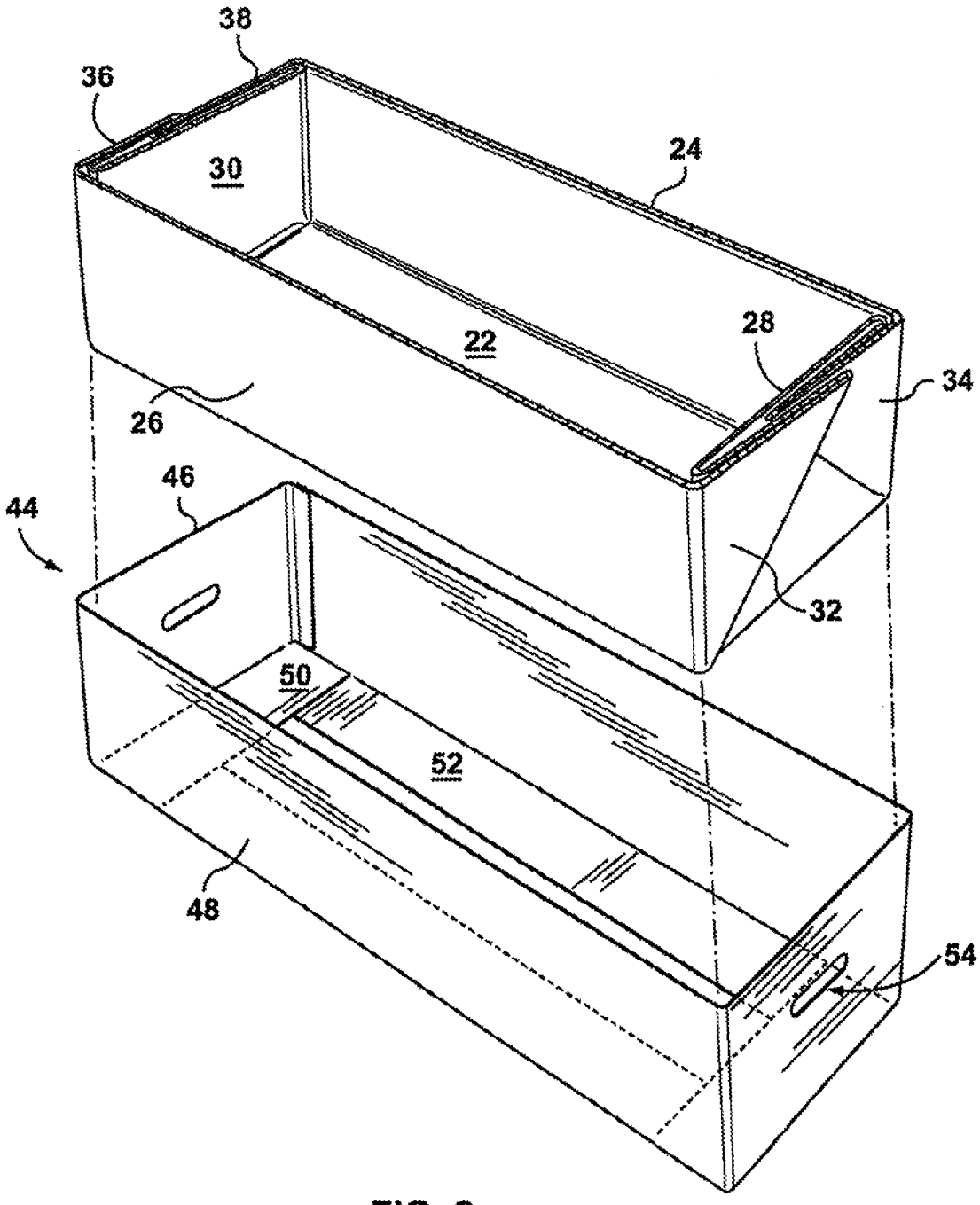


FIG. 2

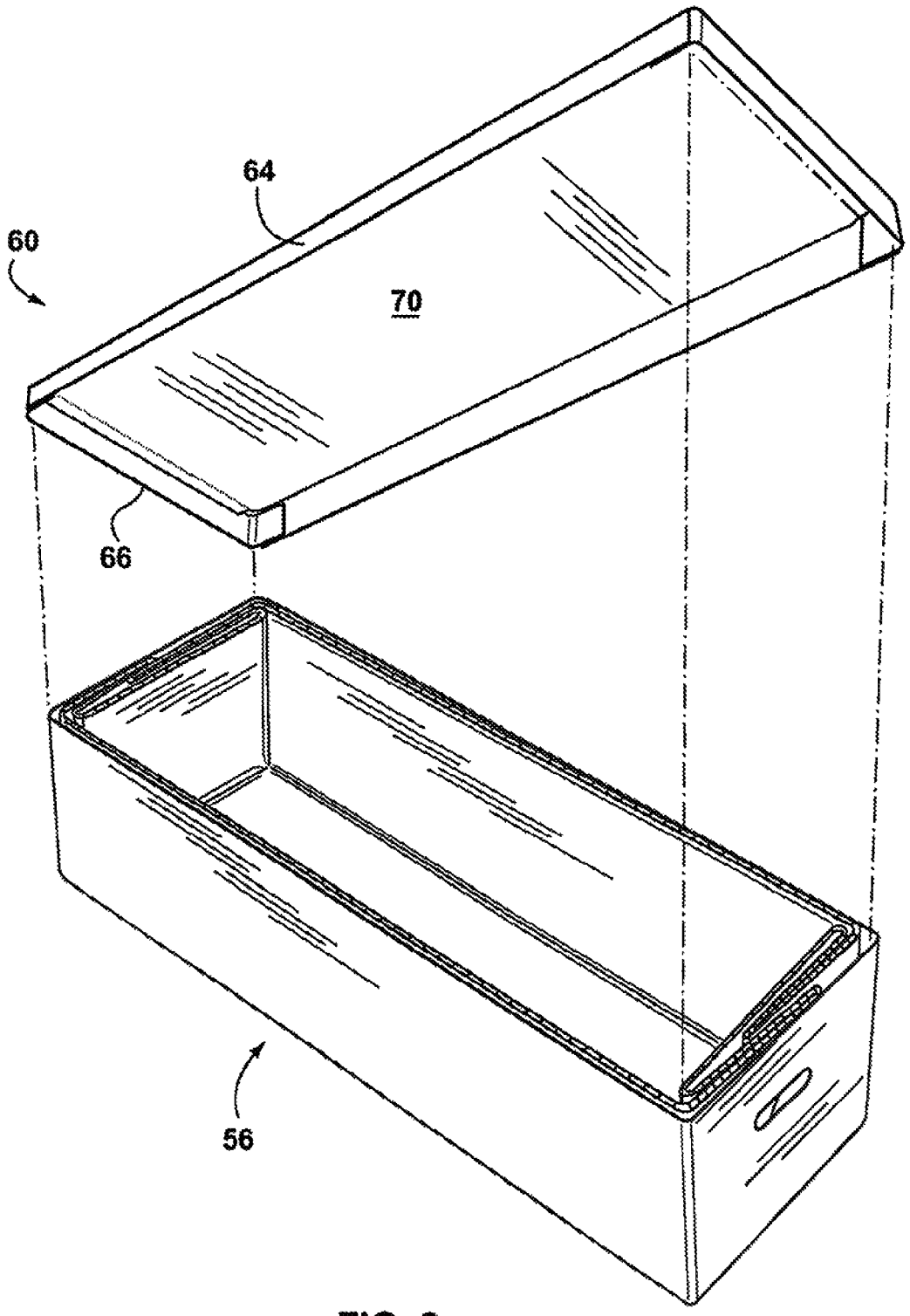


FIG. 3

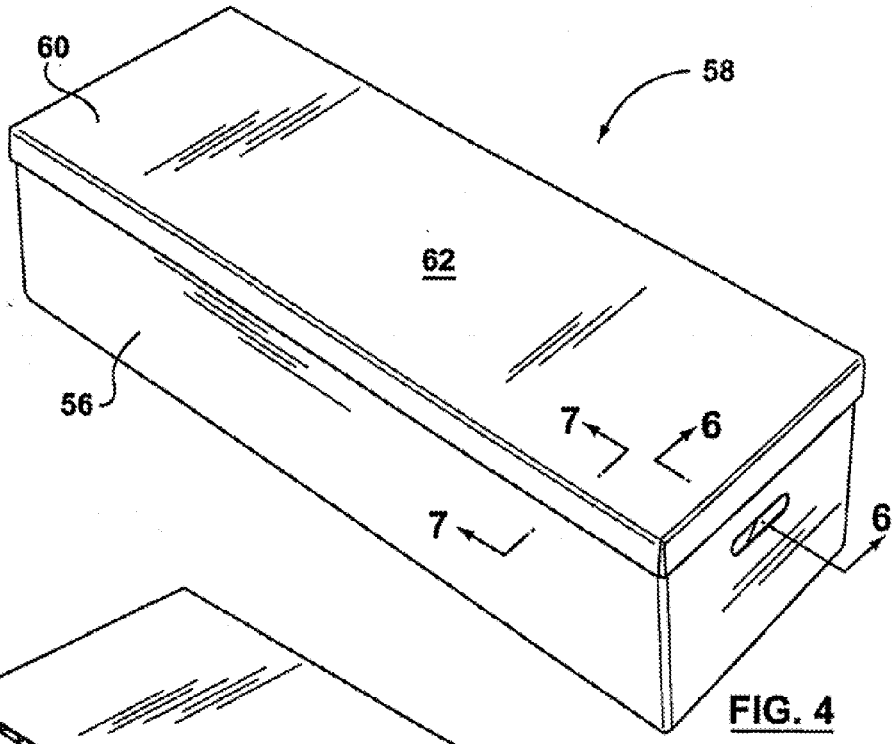


FIG. 4

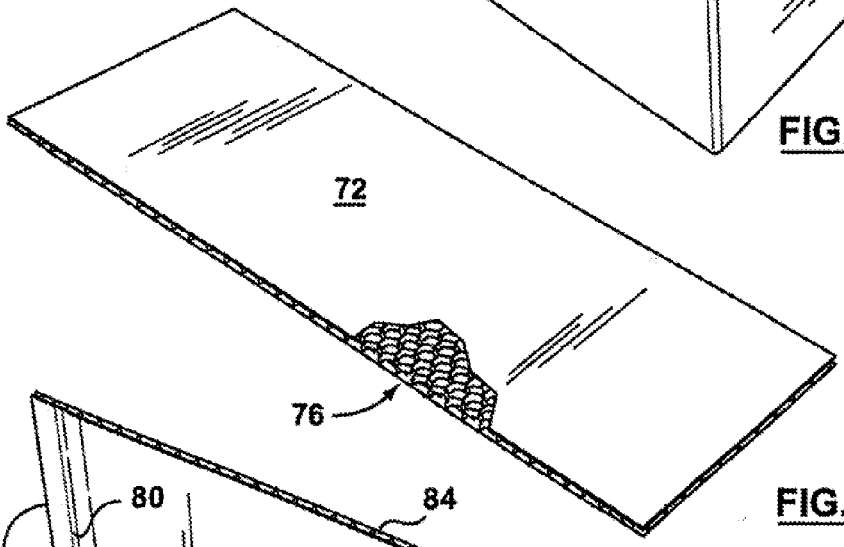


FIG. 5A

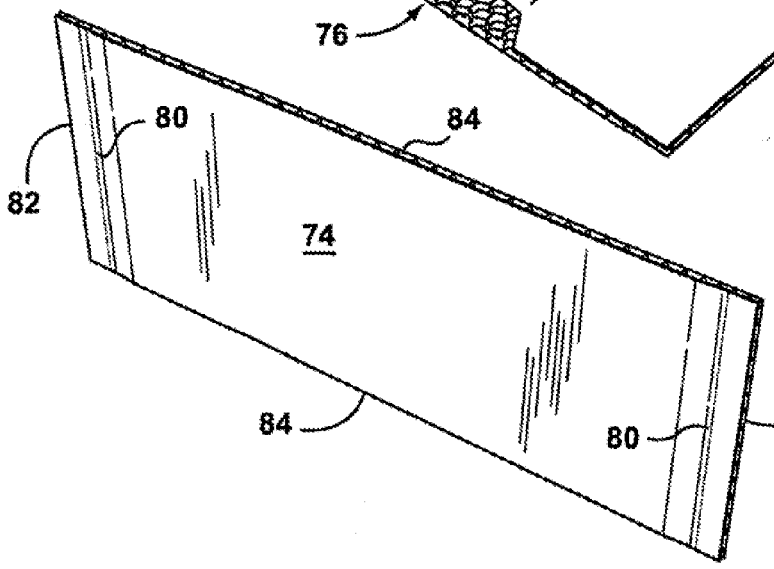


FIG. 5B

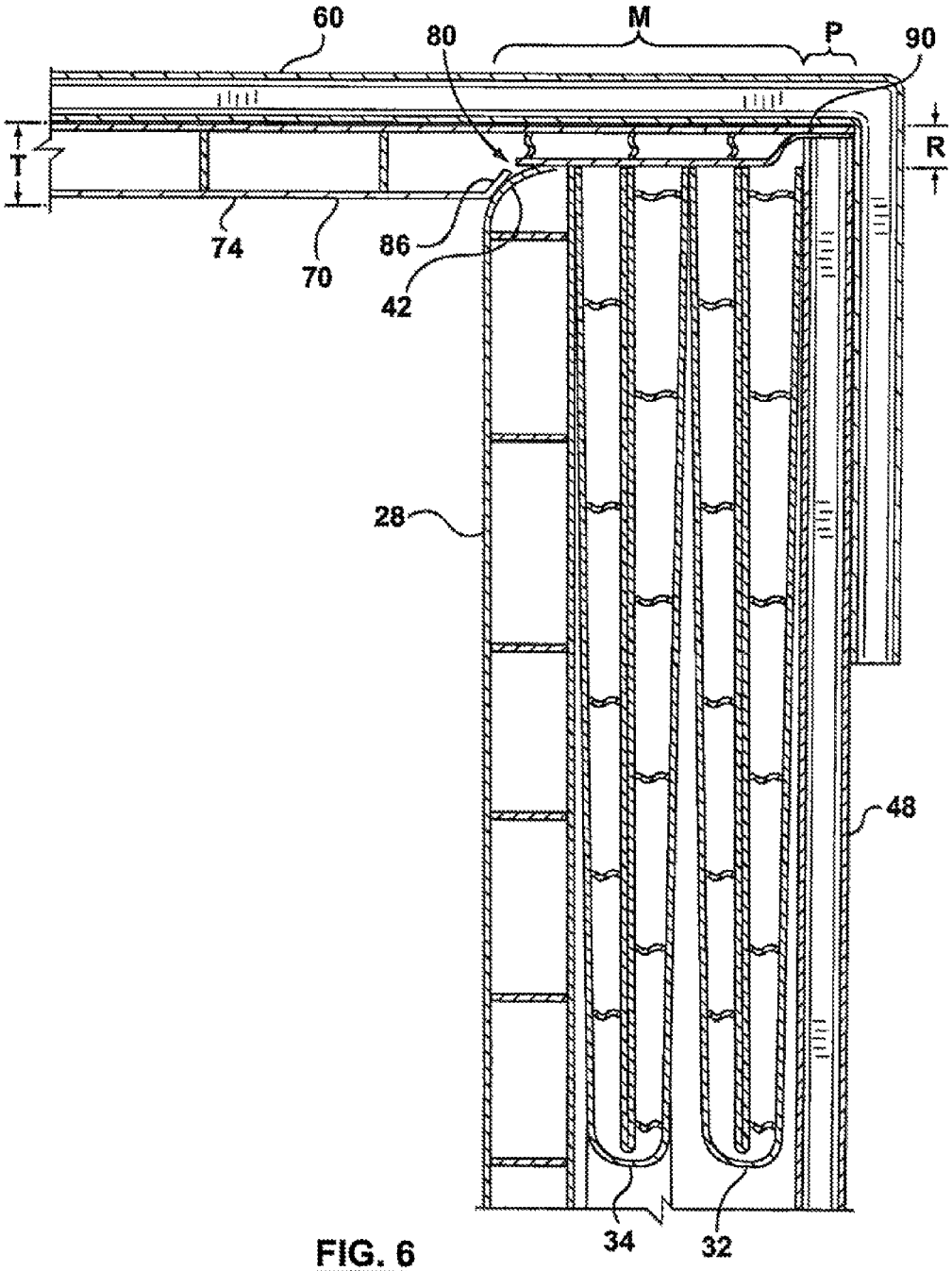


FIG. 6

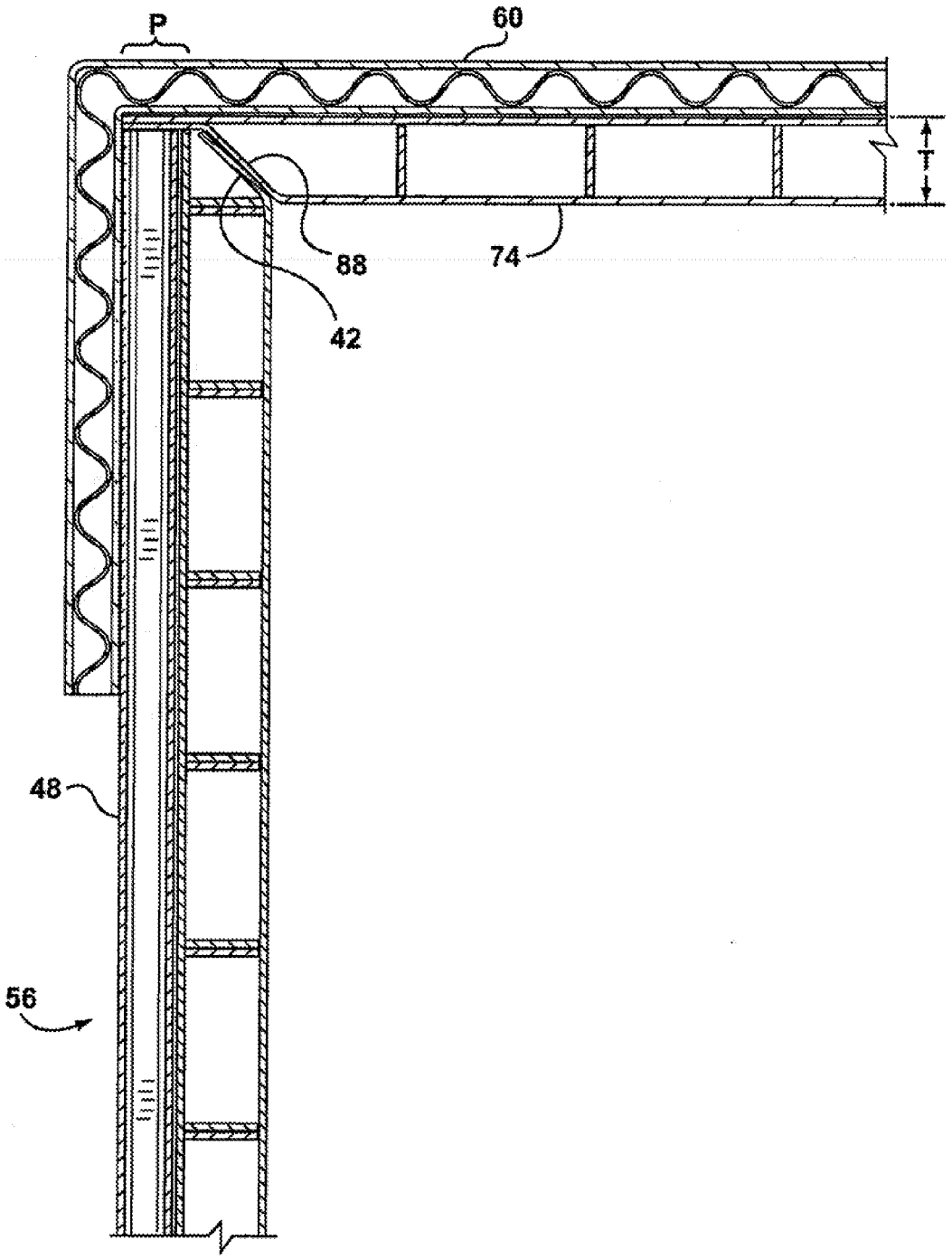


FIG. 7

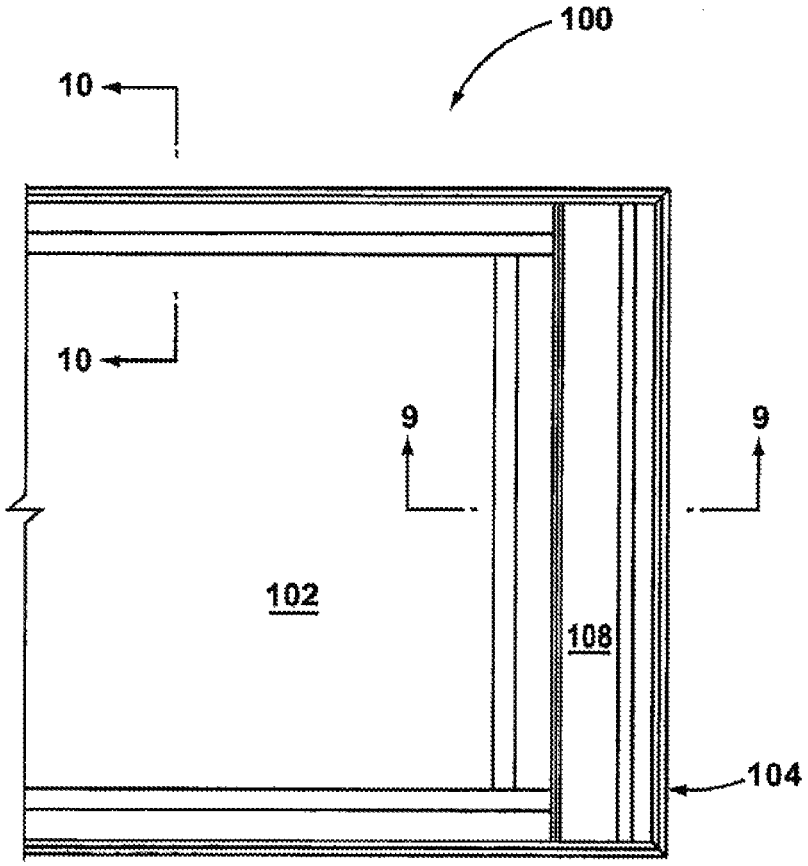


FIG. 8

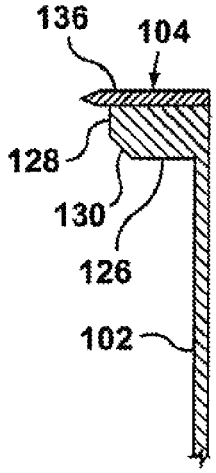


FIG. 10

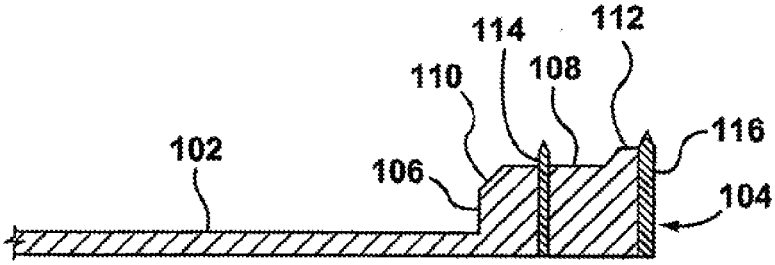


FIG. 9

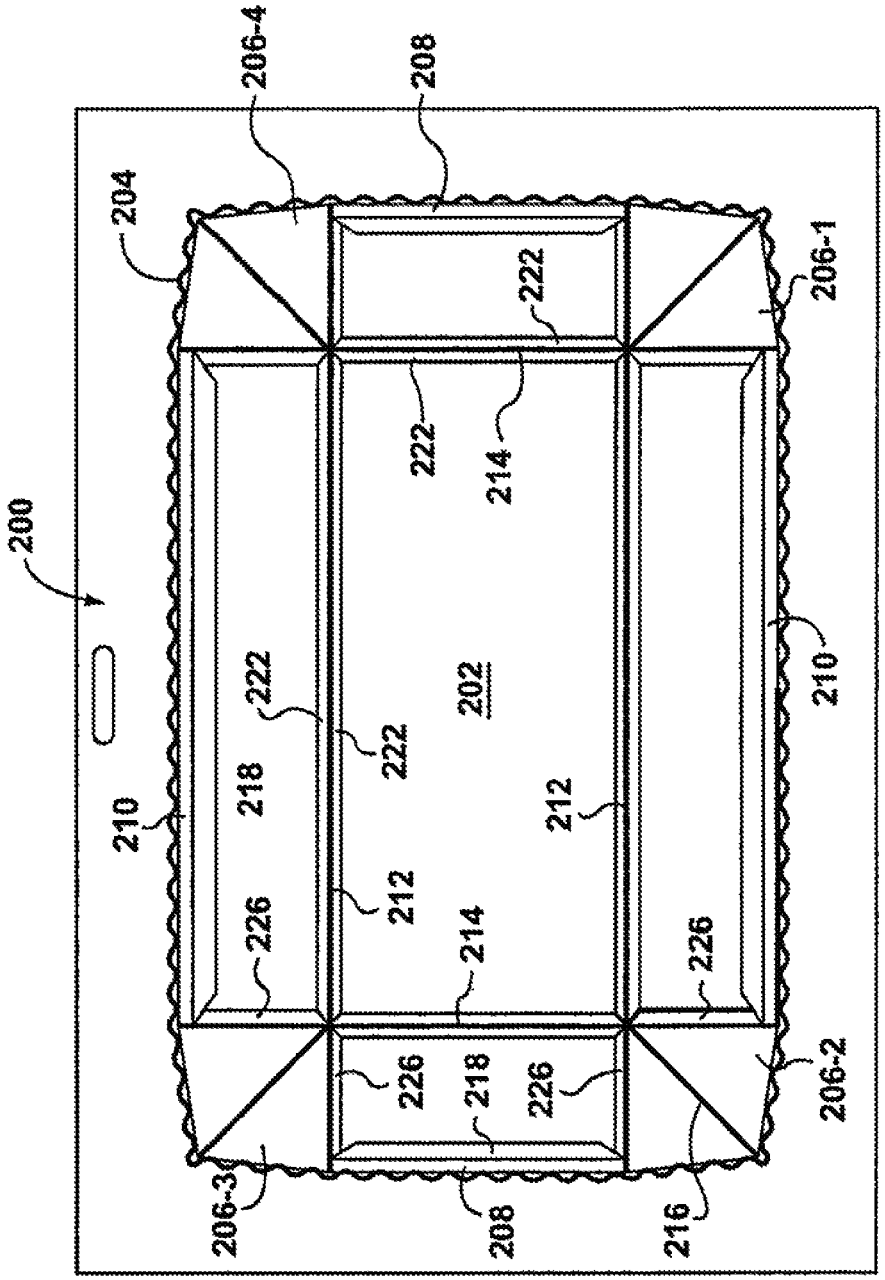

206-4
208
204
206-1
222
222
214
200
210
222
218
222
202
212
210
226
212
214
226
206-2
226
218
226
206-3
208
216

FIG. 11

THERMAL CONTAINER

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation of U.S. application Ser. No. 13/161,999 filed Jun. 16, 2011, pending, which is a divisional of U.S. application Ser. No. 12/170,870 filed Jul. 10, 2008, U.S. Pat. No. 7,975,905 issued on Jul. 12, 2011, the contents of which are incorporated herein by reference.

TECHNICAL FIELD OF THE INVENTION

This invention relates to a container, thermal insulating liners for a container, and dies for making thermal insulating liners.

BACKGROUND

Perishable goods may be packed in containers for shipping that utilize materials such as waxed corrugate and expanded foam. A refrigerant may be placed in the container with the goods. For example, it is known to pack fresh fish in a bag, surround the bag with a frozen Gel-Pack or ice, and place the bag and refrigerant in a corrugated container lined with polystyrene insulation. While such a thermally insulated container will keep the container contents acceptably refrigerated for a period of time, shipping times may exceed this time period. Further, the materials used for the containers, and especially expanded foam materials, give rise to environmental concerns.

U.S. Pat. No. 5,000,372 and U.S. Pat. No. 5,111,957 attempt to improve the insulating properties of a container by using panels formed of a honeycomb material covered by aluminum foil. However, there is a risk of leakage and there also remains a need for a thermal container which maintains its contents in a refrigerated state for a longer time period.

BRIEF SUMMARY OF THE INVENTION

A thermal insulating liner for a container lid has a top sheet and a bottom sheet spaced by a core. The bottom sheet comprises a metal foil layer. A side edge-to-side edge transverse cut line extends through the bottom sheet proximate each of two opposed ends of the liner. The liner has reduced thickness end margins extending between each said side edge-to-side edge transverse cut line and each of the opposed ends.

In a container, the lid liner may be adhered to an inside of a lid. The container also has a further liner with an inner sheet and an outer sheet spaced by a core with the inner sheet comprising a metal foil layer. The further liner is folded into a container body.

A die to make the lid liner may have a central well and, proximate each end of the die, an upward step to a land with an inside edge of the step having a ramp surface. A first cutting blade protrudes upwardly from the land and a second cutting blade protrudes upwardly above the land at each end of the die and above the level of the first cutting blade.

A die to make the container body liner may have a central well, a circumferential cutting blade defining a generally rectangular shape and four generally square lands extending from each corner of the generally rectangular shape. A narrow land may extend along the cutting blade between each pair of corner lands with a ramp from the central well to each narrow land.

According to a general thermal insulating liner insertable in a container body, the thermal insulating liner comprises: a top sheet and a co-extensive bottom sheet spaced by a co-extensive core having honeycomb-shaped cells extending between said top sheet and said bottom sheet; said bottom sheet comprising a metal foil layer; said liner having two opposed ends and reduced thickness end margins extending parallel and proximate to the two opposed ends wherein the honeycomb-shaped cells of the core in the reduced thickness end margins are partially crushed and maintain an air spacing therebetween.

According to another general aspect, there is provided a thermal container comprising: a container body having end walls and side walls; and a first thermal insulating liner portion and a second thermal insulating liner portion, each said liner portions having an inner sheet and an outer sheet spaced by a co-extensive core including honeycomb shaped cells, said inner sheet comprising a metal foil layer; said first thermal insulating liner portion being folded to fit snugly into the container body without any free end of the first liner portion being present inside an internal space defined by the first liner portion inside the container body, said first liner portion having plies folded against one another and forming at least one ply stack adjacent to one of the side walls and the end walls of the container body; said second thermal insulating liner portion having two opposed ends, and reduced thickness end margins extending parallel and proximate to the opposed ends; wherein said second thermal insulating liner portion is closable onto said first thermal insulating liner portion with the reduced thickness end margins engaged into abutment against upper ends of a respective ply stack to form a thermal seal thereagainst.

According to still another general aspect, there is provided a thermal container comprising: a container body having end walls and side walls; a first thermal insulating liner portion and a second thermal insulating liner portion, each said liner portions having an inner sheet and an outer sheet spaced by a co-extensive core including honeycomb shaped cells, said inner sheet comprising a metal foil layer; said first thermal insulating liner portion being folded to fit snugly into the container body without any free end of the first liner portion being present inside an internal space defined by the first liner portion inside the container body, said first liner portion having plies folded against one another and forming at least one ply stack adjacent to one of the side walls and the end walls of the container body.

Other features and advantages of the invention will become apparent from the following description in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

In the figures which illustrate an example embodiment of the invention,

FIGS. **1**A and **1**B are perspective views of a partially erected insulating liner for a container body made in accordance with this invention,

FIG. **2** is an exploded view of a container body made in accordance with this invention,

FIG. **3** is an exploded view of a container made in accordance with this invention,

FIG. **4** is a perspective view of the container of FIG. **3** shown closed,

FIGS. **5**A and **5**B are perspective views of a lid liner of the container of FIG. **3**,

FIG. **6** is a cross-sectional view along the lines **6**-**6** of FIG. **4**,

FIG. **7** is a cross-sectional view along the lines **7**-**7** of FIG. **4**,

FIG. **8** is a fragmentary top view of a die for fabricating the lid liner of FIGS. **5**A and **5**B,

FIG. **9** is a cross-sectional view along the lines **9-9** of FIG. **8**,

FIG. **10** is a cross-sectional view along the lines **10-10** of FIG. **8**, and

FIG. **11** is a top view of a die for fabricating the container body liner of FIGS. **1**A and **1**B.

DETAILED DESCRIPTION

Turning to FIG. **1**A, a partially erected insulating liner **20** has a bottom wall **22**, side walls **24**, **26**, end walls **28**, **30**, and corner walls **32**, **34**, **36**, **38**. The walls are separated by crease lines **40-1** and **40-2**. Additionally, score lines **39** bisect the corner walls. The crease lines **40-1** and **40-2** have a gentle slope to the center of the crease line, but crease lines **40-1**, which are between the bottom wall **22** and each of the side **24**, **26** and end walls **28**, **30**, may have a modestly greater slope to the center of the crease than to the remaining crease lines **40-2**. The corner walls **32**, **34**, **36**, **38** are compressed such that they have a reduced thickness as compared with the bottom wall **22**. Additionally, the perimeter of the liner **20** along the side walls **24**, **26** and along the end walls **28**, **30** has a ramp surface **42** down to a reduced thickness edge.

FIGS. **1**A, **1**B, and **2** show the progressive erection of liner **20**, with FIG. **1**B illustrating the direction in which each wall is folded to erect the liner. As seen in FIG. **2**, when erected, corner walls **32**, **34** of liner **20** are folded behind end wall **28** and corner walls **36**, **38** are folded behind end wall **30** such that the liner forms the shape of an open container body. This folding is facilitated by the fact that the corner walls have a reduced thickness and by crease lines **40-2** and score lines **39**. Once the corner walls are folded back, this will tend to further compress the base of the corner walls, as is seen in FIG. **7**. With continued reference to FIG. **2**, when erected, the top edge of the side walls **24**, **26** and end walls **28**, **30** of the liner **20** have ramp surface **42**. Also, because of the shape of the liner blank, the top edges of the corner walls lie below the top edge of the end walls **28**, **30**. Liner **20** may be slid into a base **44**. The base **44** has a pair of end walls **46**, a pair of side walls **48**, and inwardly folded end flaps **50** underlain by inwardly folded side flaps **52**. Each of the end walls has a cut out **54** to provide a hand grip.

Turning to FIGS. **3** and **4**, once the erected liner **20** is slid into the base **44**, the base holds the liner erect. The base **44**, with the inserted liner **20**, forms the body **56** of a container **58**. Notably, the top edges of the side walls **26** and the end wall **28** of the erected liner **20** lie flush with, or slightly above, the top edges of the base whereas the corner walls lie flush with or below the top edges of the base. The lid **60** of the container has a top wall **62**, a pair of narrow side walls **64** and a pair of narrow end walls **66**. A thermal lid liner **70** is glued to the inside face of the top wall **62** of the lid. The base **44** and container lid (apart from thermal liner **70**) may be fabricated of corrugate.

Referencing FIGS. **5**A and **5**B, the thermal lid liner **70** has a top sheet **72**, a bottom sheet **74**, and a core **76**. The top and bottom sheets have an exterior metal foil layer laminated to an interior plastic substrate, such as a polypropylene, polyethylene or polyester substrate. The plastic substrate is glued to Kraft liner board paper. The core **76** is a series of Kraft paper walls between the top **72** and bottom **74** sheets forming honeycomb-shaped cells. The foil layer of the bottom sheet faces the interior of the container when the container is closed and therefore reflects cold back into the container. The foil layer of the top sheet faces the outside of the container when the container is closed and therefore reflects heat away from the container. The thermal liner **20** is constructed in the same manner as liner **70** such that liner **20** has an inwardly facing foil layer and an outwardly facing foil layer.

The thermal lid liner **70** has a transverse cut line **80** proximate each of its ends **82** extending from one side edge **84** to the other side edge **84** of the liner. This cut line extends through the bottom sheet **74** of the liner and may also extend part way through the core **76**.

With reference to FIG. **6**, the lid liner **70** has a thickness, T, at a middle portion of the liner and a reduced thickness, R, in an end margin M extending between each side edge-to-side edge transverse cut line **80** and an adjacent end **82** of the liner. With reference to FIG. **7** along with FIG. **6**, the lid liner **70** also has a reduced thickness band P about the perimeter of the lid liner, which perimeter band is thinner than the end margins M of the lid liner **70**. As will be apparent from FIGS. **6** and **7**, the top sheet **72** of the liner is generally planar and the bottom sheet **74** is generally planar except where the liner transitions in thickness. At the ends of the lid liner, the liner transitions in thickness from thickness T to reduced thickness R at a ramp surface **86** which is interrupted by cut line **80** and transitions from reduced thickness R to the further reduced thickness at the perimeter band P at a ramp surface **90**. At the sides of the lid liner, the liner transitions from thickness T to the further reduced thickness at the perimeter band P of the liner at a ramp surface **88**. The cut lines **80** assist in retaining the transition in thickness at end margins M and assist in allowing the mating of ramps **86** and **42**.

The width of margin M along the ends of the liner substantially matches the thickness of the plural layers at the ends of the erected container body liner **20**, and the width of the perimeter band substantially matches the thickness of the base **44**. In consequence, with the container closed, the end margins M of the lid liner sit on the plural folded layers of the end of the container body liner with a ramp surface **86** of the lid liner abutting a ramp surface **42** of the container body liner and the perimeter band P of the lid liner sits on the top edges of the base **44**. When closed, additionally, ramp surface **88** at each side of the lid liner abuts a ramp surface **42** at each side of the container body liner. When the lid **60** is in place, it may be pushed downwardly to further compress the lid liner and held in this position with strapping or the like. This forms a tight seal between the container body and lid thereby enhancing the thermal insulating properties of the container. Thus, the lid liner acts as a gasket providing a seal to the container body.

Lid liner **70** may be fabricated using the die illustrated in FIGS. **8** to **10**. Turning to these figures, die **100** has a central well **102**. Proximate each end **104** of the die, the die has an upward step **106** to an end land **108**. An inside edge of this step has a ramp surface **110**. A cutting blade **114** protrudes upwardly above the end land. The end land **108** has an upward land step to an upper level **112**; a cutting blade **116** extends along the end **104** of the die at the upper level **112** of the end land and extends above the level of the cutting blade **114**.

Proximate each side of the die, the die has an upward step **126** to a side land **128**. An inside edge of the step **126** has a ramp surface **130**. A cutting blade **136** extends along the side of the die and protrudes above the side land **128**.

Each side land **128** is flush with the upper level **112** of the end lands **108** and has a similar width to the width of the upper level **112**.

With reference to FIGS. **6** and **7**, a liner **70** may be formed from a blank by placing the blank on the die with the bottom side **74** facing the die and then pressing the blank downwardly with a platen. This will form the cut lines **80** in the blank, cut

the blank to size, and crush the end margins M and perimeter band P of the lid liner to their reduced thicknesses while forming the ramp surfaces **86**, **88**, and **90**.

Container body liner **20** may be fabricated using the die of FIG. **11**. Turning to this figure, die **200** has a central well **202** with a circumferential cutting blade **204** defining a generally rectangular shape. A generally square corner land **206-1**, **206-2**, **206-3**, **206-4** extends from each corner of the generally rectangular shape and a narrow land **208**, **210** extends along the cutting blade **204** between adjacent corner lands. End-to-end creasing ridges **212** extend along an inside side of corner lands **206-1**, **206-2** and along an inside side of corner lands **206-3**, **206-4**. Side-to-side creasing ridges **214** extend along an inside side of corner lands **206-1**, **206-4** and along an inside side of corner lands **206-2**, **206-3**. A diagonal scoring ridge **216** extends through each corner land between a corner of the generally rectangular shape and an intersection of the end-to-end and side-to-side creasing ridges. Ramps **218** extend upwardly to the narrow lands **208**, **210**. These ramps may have a 40° slope and will form ramps **42** (FIG. **1**A) in a container body liner made on the die. Ramps **222** extend upwardly to end-to-end creasing ridges **212** between the side-to-side creasing ridges and upwardly to the side-to-side creasing ridges **214** between the end-to-end creasing ridges. These ramps **222** may have a 10° slope and will form, with the creasing ridges, creases **40-1** in the container body liner. Ramps **226** extend upwardly to the portion of the end-to-end creasing ridges **212** and side-to-side creasing ridges **214** which lie along the inside edges of the corner lands. These ramps **226** may have a 7° slope and will form, along with the creasing ridges, creases **40-2** in the container body liner. Scoring ridges **216** form the scores **39** in the container body liner.

By forming the container body by folding a single panel (liner **70**), there are no seams for liquids to leak through. Further, by gently creasing the liner, the chances of compromising the integrity of the liner, and hence risking leaks, is reduced. Applying the foil layer to a plastic substrate has the additional advantage that their relatively high elasticity permits the die operations without losing their integrity and thereby risking leaks.

The honeycomb core in the thermal liners **20** and **70** enhance their thermal properties as the honeycomb structures provide insulating dead air spaces. This, in conjunction with the seal formed between the lid **60** and container body **56** results in a container with superior thermal performance. Indeed, it has been observed that the described container may maintain contents in a refrigerated state for upwards of sixty hours. Further, it will be appreciated that the container is formed of environmentally benign materials.

Many modifications within the spirit of the invention are possible. For example, it would be possible to utilize a core in the thermal liners **20**, **70** other than the described honeycomb structures provided the core is crushable. Also, the sheets of the thermal liners could omit the Kraft liner board paper. It would also be possible to omit the plastic substrate, however, this could significantly reduce the leak resistance of the container. Further, sufficient thermal insulation may be possible if only the inner sheets of the liners comprise a foil layer.

Rather than placing a liner blank on one of the described dies and pressing the blank into the die, male and female dies could be used.

Other modifications will be apparent to those skilled in the art and, therefore, the invention is defined in the claims.

The invention claimed is:

1. A thermal insulating liner insertable in a container body, said thermal insulating liner comprising:

a top sheet and a co-extensive bottom sheet spaced by a co-extensive core having honeycomb-shaped cells extending between said top sheet and said bottom sheet;

said bottom sheet comprising a metal foil layer;

said liner having two opposed ends and reduced thickness end margins extending parallel and proximate to the two opposed ends wherein the honeycomb-shaped cells of the core in the reduced thickness end margins are partially crushed and maintain an air spacing therebetween.

2. The thermal insulating liner as claimed in claim **1**, further comprising a reduced thickness band extending along a perimeter of said liner, said reduced thickness band being thinner than said reduced thickness end margins.

3. The thermal insulating liner as claimed in claim **1**, further comprising a ramp surface to each reduced thickness end margin.

4. The thermal insulating liner as claimed in claim **1**, wherein said top sheet is generally planar and said bottom sheet is generally planar at a middle portion and is non-planar where transitions in thickness of said thermal insulating liner.

5. The thermal insulating liner as claimed in claim **1**, wherein said bottom sheet comprises a plastic substrate for said foil layer and a paper layer adhesively adhered to said plastic substrate, said foil layer being a bottommost layer and wherein said top sheet comprises an interior paper layer adhesively adhered to a plastic substrate for an exterior foil layer.

6. The thermal insulating liner as claimed in claim **1**, further comprising a transverse line through said bottom sheet proximate each of the two opposed ends of the liner with a respective one of the reduced thickness end margins extending between each said transverse line and each of said opposed ends.

7. A thermal container comprising:

a container body having end walls and side walls; and

a first thermal insulating liner portion and a second thermal insulating liner portion, each said liner portions having an inner sheet and an outer sheet spaced by a co-extensive core including honeycomb shaped cells, said inner sheet comprising a metal foil layer;

said first thermal insulating liner portion being folded to fit snugly into the container body without any free end of the first liner portion being present inside an internal space defined by the first liner portion inside the container body, said first liner portion having plies folded against one another and forming at least one ply stack adjacent to one of the side walls and the end walls of the container body;

said second thermal insulating liner portion having two opposed ends, and reduced thickness end margins extending parallel and proximate to the opposed ends;

wherein said second thermal insulating liner portion is closable onto said first thermal insulating liner portion with the reduced thickness end margins engaged into abutment against upper ends of a respective ply stack to form a thermal seal thereagainst.

8. The thermal container as claimed in claim **7**, wherein said inner sheet of said first thermal insulating liner portion and said inner sheet of said second thermal insulating liner portion face an inside of said container body when said container is closed.

9. The thermal container as claimed in claim **7**, further comprising a lid and said second thermal insulating liner portion adhered to an inside of said lid.

10. The thermal container as claimed in claim **7**, wherein said second thermal insulating liner portion has a side edge-to-side edge transverse cut line extending through said inner sheet proximate each of the two opposed ends and reduced

thickness end margins extending between each of said side edge-to-side edge transverse cut lines and each of said opposed ends.

11. The thermal container as claimed in claim **7**, wherein said inner sheet comprises a plastic substrate for said foil layer and a paper layer adhesively adhered to said plastic substrate such that said foil layer faces an inside of said container when said container is closed.

12. The thermal container as claimed in claim **11**, wherein said outer sheet comprises a paper layer adhesively adhered to a plastic substrate for a foil layer.

13. The thermal container as claimed in claim **7**, wherein the container body comprises a bottom portion and the first thermal insulating liner portion extends continuously in the bottom portion when inserted in the container body without any free end being present in the bottom of said container body.

14. The thermal container as claimed in claim **13**, wherein said first thermal insulating liner portion is folded such that there is a single layer juxtaposed to said bottom portion of said container body, a single layer juxtaposed to said side walls of said container body, and plural layers juxtaposed to said end walls of said container body.

15. The thermal container as claimed in claim **14**, wherein an innermost layer of said plural layers of said first thermal insulating liner portion juxtaposed to the end walls of said container body is thicker than each other layer of said plural layers juxtaposed to the end walls of said container body.

16. The thermal container as claimed in claim **15**, wherein said second thermal insulating liner portion has a side edge-to-side edge transverse cut line extending through said inner sheet proximate each of the two opposed ends and, when said container is closed, each said side edge-to-side edge transverse cut line through said inner sheet of said second thermal insulating liner portion is adjacent a top edge of a said innermost layer of said plural layers of said first thermal insulating liner portion.

17. The thermal container as claimed in claim **7**, wherein said first thermal insulating liner portion comprises crease lines to facilitate said folding.

18. The thermal container as claimed in claim **7**, wherein said second thermal insulating liner portion has a reduced thickness band about a perimeter of said second thermal insulating liner portion, said reduced thickness band being thinner than said reduced thickness end margins.

19. A thermal container comprising:

a container body having end walls, side walls, and a bottom portion;

a first thermal insulating liner portion and a second thermal insulating liner portion, each said liner portions having an inner sheet and an outer sheet spaced by a co-extensive core including honeycomb shaped cells, said inner sheet comprising a metal foil layer;

said first thermal insulating liner portion being folded to fit snugly into the container body without any free end of the first liner portion being present inside an internal space defined by the first liner portion inside the container body, said first liner portion having plies folded against one another and forming at least one ply stack adjacent to one of the side walls and the end walls of the container body; and

the first thermal insulating liner portion extending continuously in the bottom portion when inserted in the container body without any free end being present in the bottom of said container body, the first thermal insulating liner portion being folded such that there are plural layers juxtaposed to said end walls of said container body and an innermost layer of said plural layers juxtaposed to the end walls of said container body is thicker than each other layer of said plural layers juxtaposed to the end walls of said container body.

20. The thermal container as claimed in claim **19**, wherein said inner sheet of said first thermal insulating liner portion faces an inside of said container body when said container is closed.

21. The thermal container as claimed in claim **19**, wherein the first thermal insulating liner portion comprises free ends and said free ends being aligned with an upper end of said container body.

22. The thermal container as claimed in claim **19**, wherein said first thermal insulating liner portion is folded such that there is a single layer juxtaposed to said bottom portion of said container body and a single layer juxtaposed to said side walls of said container body.

23. The thermal container as claimed in claim **19**, wherein said second thermal insulating liner portion has a side edge-to-side edge transverse cut line extending through said inner sheet proximate each of two opposed ends and, when said container is closed, each said side edge-to-side edge transverse cut line through said inner sheet of said second thermal insulating liner portion is adjacent a top edge of a said innermost layer of said plural layers of said first thermal insulating liner portion.

24. The thermal container as claimed in claim **23**, wherein said second thermal insulating liner portion has a reduced thickness band about a perimeter of said second thermal insulating liner portion and reduced thickness end margins extending between each of said side edge-to-side edge transverse cut lines and each of said opposed ends, said reduced thickness band being thinner than said reduced thickness end margins.

25. The thermal container as claimed in claim **19**, wherein said first thermal insulating liner portion comprises crease lines to facilitate said folding.

* * * * *